

## Dozer Fire Lesson Shared



During initial attack operations on the Turkey Creek Fire in Palo Pinto County, Texas there was an incident involving a Caterpillar D6 N. The dozer's belly pan area caught fire while working on indirect line construction near the head of the fire. The dozer operator and other resources took appropriate actions to safely extinguish the fire and secure the equipment, resulting in no injuries to personnel and ultimately preventing the total loss of the equipment.

### ***“There’s a dozer on fire.” -Air Attack***

#### **Narrative**

On August 14, 2020, the Task Force staged in Mineral Wells, TX was requested to a fire in Palo Pinto County. Resources arrived on the fire at 1753 and briefed prior to engaging. Two Caterpillar D6 dozers began working in tandem to construct line on the right flank. The two D6 dozers, Dozer Operator 1 (DZOP 1) and Dozer Operator 2 (DZOP 2), were instructed by the Division Supervisor (DIVS) to improve an indirect two-track road to protect a threatened structure. The fire ultimately spotted over that line and the decision was made to go direct. While constructing direct line on an extremely active area, DZOP 1 recognized that his dozer was overheating. He communicated this to his Heavy Equipment Boss (HEQB) and moved to a safe location so the dozer could cool off. Once the dozer returned to normal operating temperature, DZOP 1 continued to support direct line construction. While DZOP 1 was improving line behind DZOP 2 an oak tree became lodged between the dozer and its blade. After removal, it was identified that the hydraulic line going to the tilt cylinder was sheared off at the fitting. It was discussed and agreed upon between DZOP 1 and the HEQB that the dozer would continue to push line and not be heavily impacted by the inability to tilt the blade. DZOP 1 then reengaged and continued to push direct line while DZOP 2 improved line behind him. The fire activity became very intense and both operators disengaged and pulled back to a nearby oil well pad.



**Picture 1: The disabled dozer after the engine compartment fire was suppressed.**

***“There was no sign there was anything wrong with the dozer before it engaged on that indirect line.” -HEQB***

Before re-engaging the DIVS met with his resources and discussed changing strategies back to indirect line construction. This was due to extremely active fire behavior and high resistance to control as they were beginning to pinch off the head of the fire. After pushing indirect line for about 100 yards, DZOP 1 noticed his dozer overheating again. He moved the dozer off the line into an open area to allow for the other dozer to continue line construction. DZOP 1 then put the dozer in neutral and lowered the blade. He then saw smoke coming from the battery box area. He quickly radioed that his dozer was on fire, grabbed the fire extinguisher, and exited the machine. DZOP 1 used the extinguisher to put out the fire in the battery box and realized there was also fire in the belly pan area. He quickly pulled the engine compartment cowlings and used the remainder of the extinguisher. Having heard the radio traffic, the Heavy Equipment Boss Trainee (HEQB (t)) moved from the oil well pad towards the dozer. The UTV he was assigned had a 30 gallon suppression unit on it. As the HEQB (t) neared the dozer he could see flames coming from the engine compartment. At this time Air Attack called the Incident Commander (IC) and notified him that a dozer was on fire. The IC cleared the tactical frequency for emergency traffic and called the DIVS, asking for clarification on the dozer being on fire. The HEQB (t) answered the IC and confirmed that one of their dozers was on fire.

***“All my dash lights lit up like a Christmas tree.” -DZOP 1***



**Picture 2: Dozer Operator 2 constructing a safety zone around the disabled dozer.**

HEQB(t) arrived at the dozer as DZOP 1 was attempting to suppress the fire in the engine compartment. A Volunteer Fire Department type 6 engine that was supporting the dozers also arrived and put out the remainder of the fire. HEQB then began to document with photos while DZOP 2 started to clear a safety zone between disabled dozer and the fire front. At the same time, Air Attack reassigned aviation assets to start making drops along the fires head to protect crews working around the damaged dozer. Once the HEQB completed documenting the incident she took DZOP 1 back to the oil well pad. After the fire in the dozer was thoroughly extinguished the VFD type 6 engine and HEQB (t) returned to the oil well pad. DZOP 2 completed line around the disabled dozer then rejoined the other resources. The DIVS was then fully

briefed on the incident and a tactical pause was taken on that division. The DIVS relayed all information to the IC who contacted dispatch and notified them of the dozer fire.

**The cause of the fire is currently undetermined, while the FLA team Subject Matter Expert is working with CAT mechanics to locate which compartment the fire originally started.**

### **Lessons Shared**

- **Equipment Maintenance and Rehab**

Following the incident, resources discussed the importance of maintenance and rehab of equipment. Office leadership ensured that equipment was thoroughly rehabbed following every fire and received additional maintenance as needed, weekly, monthly, and annually.

What is your standard to address maintenance required beyond normal fireline rehab?

- **Crew Cohesion and Experience**

Prior to the incident, crews had been working together for a week and responded to numerous initial attack fires. When the dozer caught fire, resources reacted safely and efficiently without the need for specific direction from overhead supervisors. Personnel in both trainer and trainee roles felt that cohesion and job knowledge made this incident within an incident a success.

Are you empowering your personnel to gain knowledge and skill sets so that they can problem solve quickly in a high stress environment?



**Picture 3: Battery box where the fire was first observed by the operator.**

*“We’ve never talked through if you have to use your fire extinguisher.*

*What do you do? Where do you spray?” -HEQB (T)*

- **Training**

Even though crews felt they were adequately prepared for this situation, they identified that specialized training would be beneficial. The proper use of fire extinguishers on equipment fires was identified as an area that crew members were unfamiliar with.

Have you and your staff trained on how to properly use fire extinguishers or Tractor Operated Protection System (TOPS) units?

- **Incident Within an Incident**

Crews treated the dozer fire as an incident within an incident without ever officially declaring it as such. Crews identified that they were adequately trained in incident within an incident procedure, but most training scenarios focused solely on medical incidents.

Are you training on a variety of incident within an incident scenarios with your crew?



**Picture 4: Fire damage in the dozer engine compartment.**

- **Cooperator Relationships**

Local staff have worked to develop positive relationship with cooperators across their region. This allowed them to work in a coordinated effort on this fire and provided an additional resource to the incident within an incident.

How are you building positive relationships with your local cooperators both on and off the fire ground?